

**Amendments to the Claims:**

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application (material to be inserted is in **bold and underline**, and material to be deleted is in ~~strikeout~~ or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[ ]].

**Listing of Claims:**

1-35. (cancelled)

36. (currently amended) A **physical** vapor deposition effusion system, comprising:

a device configured to translate a strip material through a **physical vapor** deposition zone and along a processing path, each of the strip material and the **physical vapor** deposition zone having a width oriented perpendicular to the processing path and a length oriented parallel to the processing path; and

first and second substantially closed vessels located serially along the processing path, each vessel containing a heated quantity of a different source material, the first and second vessels being configured to concurrently emit the different source materials and produce overlapping plumes of the different source materials in the **physical vapor** deposition zone, each vessel including an array of vapor delivery nozzles distributed uniformly across the vessel in a direction corresponding to the width of the **physical vapor** deposition zone and configured to expel overlapping plumes of source material, so that a fog of source materials is created and deposited on the strip material in the deposition zone, the fog having a substantially uniform composition

across the width of the physical vapor deposition zone and a varying composition across the length of the physical vapor deposition zone.

37. (previously presented) The system of claim 36, further comprising a heating system adapted to maintain the nozzle at a temperature higher than the source material.

38. (previously presented) The system of claim 36, further comprising at least a third substantially closed vessel located serially relative to the first and second vessels along the processing path in the deposition zone, the third vessel containing a different composition than the first and second vessels.

39. (previously presented) The system of claim 36, wherein the source materials are selected from the group comprising copper, gallium, and indium.

40. (previously presented) The system of claim 36 further comprising a thermal control shield disposed at least partially around the vessel.

41. (previously presented) The system of claim 40, wherein the thermal control shield includes an outer shell and plural insulation layers.

42. (previously presented) The system of claim 41, wherein the outer shell is formed of one or more materials chosen from the following group: graphite, boron nitride, tantalum, molybdenum, tungsten, rhenium and titanium.

43. (previously presented) The system of claim 41, wherein the outer shell is ceramic coated.

44. (previously presented) The system of claim 36, wherein the vessel includes plural spaced-apart vapor delivery nozzles.

45. (previously presented) The system of claim 41, wherein the nozzles are disposed along an elongate axis configured to expel overlapping plumes of source material, whereby a fog of source material of substantially uniform flux along the elongate axis is created.

46. (previously presented) The system of claim 41, wherein the vessel is constructed of materials chosen from the group consisting of graphite, pyrolytic boron nitride coated graphite, tantalum, molybdenum, tungsten and ceramics.

47. (previously presented) The system of claim 36, wherein the vessel includes a crucible and a lid, wherein the at least one vapor delivery nozzle is positioned in the lid.

48. (previously presented) The system of claim 47, wherein the at least one nozzle is integrally formed into the lid.

49. (previously presented) The system of claim 47, wherein there are plural nozzles positioned on the lid.

50. (previously presented) The system of claim 49, wherein the nozzles are spaced apart between 1 and 20 centimeters.

51. (previously presented) The system of claim 47, wherein the heating system includes an electrical heating element disposed in the lid.

52. (previously presented) The system of claim 51, wherein the heating element disposed in the lid is generally U-shaped.

53. (previously presented) The system of claim 47, wherein the heating system is adapted to maintain the lid at a temperature higher than the source material.

54. (previously presented) The system of claim 36, wherein the at least one nozzle has a discharge opening between 0.25 and 2.5 centimeters in diameter.

55. (previously presented) The system of claim 36, wherein the heating system includes at least one U-shaped heating element.

56. (currently amended) A physical vapor deposition system, comprising:  
a roll assembly configured to translate a strip material through a physical vapor deposition zone and along a processing path, each of the strip material and the physical vapor deposition zone having a width oriented perpendicular to the processing path, and a length oriented parallel to the processing path;

first and second crucibles arranged serially along the processing path to concurrently emit a different source material and produce overlapping plumes of different source materials, each crucible having a lid;

each crucible having at least one nozzle in the lid to pass vapor evaporated from molten source material contained in the crucible; and

each crucible having a source material heating system to control the temperature of the source material at a desired temperature range;

wherein the roll assembly is configured to maintain a substantially constant travel speed of the strip material through the physical vapor deposition zone in relation to the temperature of source material in the crucible, such that source material of substantially uniform flux is created and deposited on the strip material.

57. (previously presented) The system of claim 56 further comprising a nozzle heating system adapted to maintain the nozzle at a temperature above the temperature of the constituent material.

58. (previously presented) The system of claim 57, wherein the nozzle heating system is configured to maintain the lid at a temperature above the temperature of the constituent material.

59. (previously presented) The system of claim 56, wherein in the nozzle is sized to constitute the rate limiting factor in effusion of the vapor.

60. (previously presented) The system of claim 56, wherein the nozzle has an opening area between 0.05 and 5 square centimeters.

61. (previously presented) The system of claim 56 further comprising a thermal control shield at least partially surrounding the crucible.

62. (previously presented) The system of claim 61, wherein the thermal control shield includes an outer shell and thermal insulation.

63. (previously presented) The system of claim 56, wherein the crucible is constructed from materials chosen from the following group: graphite, pyrolytic boron nitride coated graphite, tantalum, molybdenum, tungsten and ceramics.

64. (previously presented) The system of claim 36, wherein the device configured to continuously translate a strip material through a deposition zone and along a processing path.

65. (previously presented) The system of claim 36, wherein the strip material is a flexible strip material.

66. (previously presented) The system of claim 65, wherein the device is further configured to translate the flexible strip material to and from rolls of strip material.